

WHAT IS CLAIMED IS:

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1 An exposure method including plural sample shot processes to be made to a substrate and an exposure process to be made to the substrate after completion of the sample shot processes, said method comprising:

a first determining step for determining the processing order in a first sample shot process, of the plural sample shot processes; and

10 a second determining step for determining the processing order in a second sample shot process to be made after the first sample shot process;

wherein, in at least one of the first and second determining steps, the determination is made under a condition that an interval between a shot to be processed last in the first sample shot process and a shot to be processed first in the second sample shot process is shortened.

20 2. A method according to Claim 1, wherein, in said at least one determining step, positions of sample shots are also determined.

25 3. An exposure method including a sample shot process to be made to a substrate and an exposure process to be made to the substrate after completion of the sample shot process, said method comprising:

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a second determining step for determining the processing order in the exposure process to be made after the sample shot process;

4. A method according to Claim 3, wherein, in said at least one determining step, positions of sample shots are also determined.

a first determining step for determining the processing order in a first sample shot process, of the plural sample shot processes; and

a second determining step for determining the processing order in a second sample shot process to be made after the first sample shot process, in

accordance with a position of a shot to be processed last in the first sample shot process.

6. An exposure method including plural sample shot processes to be made to a substrate and an exposure process to be made to the substrate after completion of the sample shot processes, said method comprising:

10 a first determining step for determining the processing order in a first sample shot process, of the plural sample shot processes; and

15 a second determining step for determining the processing order in a second sample shot process to be made prior to the first sample shot process, on the basis of a position of a shot to be processed first in the first sample shot process.

7. An exposure method including a sample shot process to be made to a substrate and an exposure process to be made to the substrate after completion of the sample shot process, said method comprising:

a first determining step for determining the processing order in the sample shot process; and

25 a second determining step for determining the processing order in the exposure process to be made after the sample shot process, in accordance with a position of a shot to be processed last in the sample

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shot process.

8. An exposure method including a sample shot process to be made to a substrate and an exposure process to be made to the substrate after completion of the sample shot process, said method comprising:

a first determining step for determining the processing order in the exposure process; and

a second determining step for determining the processing order in the sample shot process to be made prior to the exposure process, in accordance with a position of a shot to be processed first in the exposure process.

9. An exposure method including plural sample shot processes to be made to a substrate and an exposure process to be made to the substrate after completion of the sample shot processes, said method comprising:

a first determining step for determining the processing order in a first sample shot process, of the plural sample shot processes; and

a second determining step for determining the processing order in a second sample shot process to be made after the first sample shot process;

wherein, in at least one of the first and second determining steps, the determination is made so

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that a difference between a position of a shot to be processed last in the first sample shot process and a position of a shot to be processed first in the second sample shot process is placed within a range of a single shot with respect to a vertical and longitudinal size in a shot layout.

- 10 10. An exposure method including a sample shot process to be made to a substrate and an exposure process to be made to the substrate after completion of the sample shot process, said method comprising:
- a first determining step for determining the processing order in the sample shot process; and
  - a second determining step for determining the processing order in the exposure process to be made after the sample shot process;

15 wherein, in at least one of the first and second determining steps, the determination is made so that a difference between a position of a shot to be processed last in the sample shot process and a position of a shot to be processed first in the exposure process is placed within a range of a single shot with respect to a vertical and longitudinal size in a shot layout.

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11. A device manufacturing method, comprising:
- an exposure step including plural sample shot

processes to be made to a substrate and an exposure  
process to be made to the substrate after completion  
of the sample shot processes, said exposure step  
further including (i) a first determining step for  
5 determining the processing order in a first sample  
shot process, of the plural sample shot processes, and  
(ii) a second determining step for determining the  
processing order in a second sample shot process to be  
made after the first sample shot process, wherein, in  
10 at least one of the first and second determining  
steps, the determination is made under a condition  
that an interval between a shot to be processed last  
in the first sample shot process and a shot to be  
processed first in the second sample shot process is  
15 shortened; and

a developing step for performing a  
development process to the substrate having been  
processed at said exposure step, for production of  
devices on the substrate.

20 12. A method according to Claim 11, wherein, in  
said at least one determining step, positions of  
sample shots are also determined.

25 13. A device manufacturing method, comprising:  
an exposure step including a sample shot  
process to be made to a substrate and an exposure

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determining the processing order in a first sample shot process, of the plural sample shot processes, and (ii) a second determining step for determining the processing order in a second sample shot process to be made after the first sample shot process, in accordance with a position of a shot to be processed last in the first sample shot process; and

5 a developing step for performing a development process to the substrate having been processed at said exposure step, for production of devices on the substrate.

16. A device manufacturing method, comprising:  
an exposure step including plural sample shot processes to be made to a substrate and an exposure process to be made to the substrate after completion of the sample shot processes, said exposure step further including (i) a first determining step for determining the processing order in a first sample shot process, of the plural sample shot processes, and (ii) a second determining step for determining the processing order in a second sample shot process to be made prior to the first sample shot process, on the basis of a position of a shot to be processed first in the first sample shot process; and

20 a developing step for performing a development process to the substrate having been



processed at said exposure step, for production of devices on the substrate.

17. A device manufacturing method, comprising:

5 an exposure step including a sample shot process to be made to a substrate and an exposure process to be made to the substrate after completion of the sample shot process, said exposure step further including (i) a first determining step for determining  
10 the processing order in the sample shot process, and (ii) a second determining step for determining the processing order in the exposure process to be made after the sample shot process, in accordance with a position of a shot to be processed last in the sample  
15 shot process; and

a developing step for performing a development process to the substrate having been processed at said exposure step, for production of devices on the substrate.

20 18. A device manufacturing method, comprising:

an exposure step including a sample shot process to be made to a substrate and an exposure process to be made to the substrate after completion  
25 of the sample shot process, said exposure step further including (i) a first determining step for determining the processing order in the exposure process, and (ii)

a second determining step for determining the processing order in the sample shot process to be made prior to the exposure process, in accordance with a position of a shot to be processed first in the exposure process; and

a developing step for performing a development process to the substrate having been processed at said exposure step, for production of devices on the substrate.

19. A device manufacturing method, comprising:

an exposure step including plural sample shot processes to be made to a substrate and an exposure process to be made to the substrate after completion of the sample shot processes, said exposure step further including (i) a first determining step for determining the processing order in a first sample shot process, of the plural sample shot processes, and (ii) a second determining step for determining the processing order in a second sample shot process to be made after the first sample shot process, wherein, in at least one of the first and second determining steps, the determination is made so that a difference between a position of a shot to be processed last in the first sample shot process and a position of a shot to be processed first in the second sample shot process is placed within a range of a single shot with

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a developing step for performing a development process to the substrate having been processed at said exposure step, for production of

devices on the substrate.

21. An exposure apparatus wherein plural sample  
shot processes are made to a substrate and an exposure  
process is made to the substrate after completion of  
the sample shot processes, said apparatus comprising:

first determining means for determining the  
processing order in a first sample shot process, of  
the plural sample shot processes; and

second determining means for determining the  
processing order in a second sample shot process to be  
made after the first sample shot process;

wherein, in at least one of said first and  
second determining means, the determination is made  
under a condition that an interval between a shot to  
be processed last in the first sample shot process and  
a shot to be processed first in the second sample shot  
process is shortened.

22. An apparatus according to Claim 21, wherein,  
in said at least one determining means, positions of  
sample shots are also determined.

23. An exposure apparatus wherein a sample shot  
process is made to a substrate and an exposure process  
is made to the substrate after completion of the  
sample shot process, said apparatus comprising:

second determining means for determining the processing order in the exposure process to be made after the sample shot process;

24. An apparatus according to Claim 23, wherein, in said at least one determining means, positions of sample shots are also determined.

first determining means for determining the processing order in a first sample shot process, of the plural sample shot processes; and

second determining means for determining the processing order in a second sample shot process to be made after the first sample shot process, in accordance with a position of a shot to be processed

last in the first sample shot process.

26. An exposure apparatus wherein plural sample shot processes are made to a substrate and an exposure process is made to the substrate after completion of the sample shot processes, said apparatus comprising:

first determining means for determining the processing order in a first sample shot process, of the plural sample shot processes; and

second determining means for determining the processing order in a second sample shot process to be made prior to the first sample shot process, on the basis of a position of a shot to be processed first in the first sample shot process.

27. An exposure apparatus wherein a sample shot process is made to a substrate and an exposure process is made to the substrate after completion of the sample shot process, said apparatus comprising:

first determining means for determining the processing order in the sample shot process; and

second determining means for determining the processing order in the exposure process to be made after the sample shot process, in accordance with a position of a shot to be processed last in the sample shot process.

28. An exposure apparatus wherein a sample shot process is made to a substrate and an exposure process is made to the substrate after completion of the sample shot process, said apparatus comprising:

5           first determining means for determining the processing order in the exposure process; and  
            second determining means for determining the processing order in the sample shot process to be made prior to the exposure process, in accordance with a  
10          position of a shot to be processed first in the exposure process.

29. An exposure apparatus wherein plural sample shot processes are made to a substrate and an exposure process is made to the substrate after completion of the sample shot processes, said apparatus comprising:

15           first determining means for determining the processing order in a first sample shot process, of the plural sample shot processes; and

20           second determining means for determining the processing order in a second sample shot process to be made after the first sample shot process;

            wherein, in at least one of the first and second determining means, the determination is made so  
25          that a difference between a position of a shot to be processed last in the first sample shot process and a position of a shot to be processed first in the second

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sample shot process is placed within a range of a single shot with respect to a vertical and longitudinal size in a shot layout.

- 5        30. An exposure apparatus wherein a sample shot process is made to a substrate and an exposure process is made to the substrate after completion of the sample shot process, said apparatus comprising:

10                first determining means for determining the processing order in the sample shot process; and

                 second determining means for determining the processing order in the exposure process to be made after the sample shot process;

15                wherein, in at least one of the first and second determining means, the determination is made so that a difference between a position of a shot to be processed last in the sample shot process and a position of a shot to be processed first in the exposure process is placed within a range of a single  
20        shot with respect to a vertical and longitudinal size in a shot layout.